LEGO Duplo KidPad

An Interactive Computer Based Play Pad

GSM 0-5, LEGO Media International

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Briefly about KidPad

This document describes the ideas behind the LEGO Duplo KidPad concept. The purpose is to illustrate the potentials of the KidPad concept. The outlined ZOO setup can be changed to fit any LEGO Duplo and 0-5 segment theme – for instance Circus, Farm and Little Forest Friends.

The KidPad concept consists of *LEGO Duplo Bricks, software* and the *hardware unit/play pad*, which is to be connected to the computer. The technology used for KidPad enables the computer to recognize *which* LEGO Duplo Bricks are used on the KidPad and *where* they are placed.

The KidPad concept involves the following key words:

- **Interactive play between a physical and a virtual environment.**
- **A combination of the best from the play situation with actual Duplo Bricks and new technology (Hardware and Software).**
- **The KidPad can add new play possibilities to existing Duplo Bricks.**
- **The KidPad is the interface/platform for the 3-6 years old child for playing with the computer.**
- **The child enters into an active learning process, in which he/she plays the controlling role during the play process.**

The KidPad is a flexible concept, which can be "tailor made" for a number of different play situations. However, in this description we have decided to focus on:

- **Theme Play**
- **Story Telling**
- **Games**
- **Music**
- **The Shooting of Movies**
- **Riddles, Games and Exercises**
- **Coloring and Printing**

Educational Reflections

The KidPad concept is based on the basic idea of constructivism: The child is put in the center of the play situation in order to stimulate its natural curiosity and to strengthen its self-confidence and creativity.

The KidPad is to be contributory to the fact that children in the age of 3-6 years are enabled to acquire new knowledge and skills in a process which is characterized by being both fun and creative. Thus the KidPad concept differs from the more passive and mechanical didactic methods, which are known from the traditional behavioristic oriented applications for children. We believe that “true learning” is most likely to happen when the child is actively involved in constructing something – something that makes sense to him or her personally.

Like LEGO MINDSTORMS we wish to give the child the possibility of defining its own tasks, challenges and stories through “hands-on” construction and “mind-on” technology. This stimulates their creativity as well as their cognitive development.

In relation to “Just Imagine…” we find the following terms essential:

Creativity	**Imagination**
Variation	**Skill-development/Success**
Action/Reaction	**Positive child/parent interaction**
The Child’s Allround Development	**Challenging**
Fun	

Introduction to the Various Activities

We have chosen to present five activities/modes in this KidPad concept. They all involve different kinds of learning, but they are essentially different in their structure. Some activities are very free-formed in their structure. They try to support the child's free play and stimulate their storytelling capabilities. From a development prospective the challenge is to deliver the necessary "tools", which the children can use in their own story constructions and play.

Other activities are more structured in the way they are constructed. They include well-known elements from other successful children's programs such as "Living Books". At this level the child faces a number of educational challenges, while an exciting and amusing story is told.

The various activities take their starting point in the LEGO Brick placed on the KidPad. The five activities are:

Play Mode

In this mode the children can freely explore, nurse and play with the various Duplo animals in the ZOO. They can go on safari, take photographs, print them and color them afterwards.

Movie Mode

The children can make their own movies in which the enclosed Duplo animals perform. They can record their own stories and sounds, and make the various animals move.

Music Mode

The child can compose its own music. This is done by putting together a band consisting of the various wild animals. Instruments, rhythms and effects are decided by where the various animals are placed.

Game Mode

The game mode consists of a number of simple games and puzzles. For instance the child is asked to help the monkey Bongo collect bananas – and avoid the many dangers of the jungle at the same time.

ZOO Keeper Mode

In this mode the child can become a trainee keeper at the ZOO, learn about the animals and finally graduate as a keeper. Afterwards a diploma can be printed.

Play Mode

This activity supports the children's free play. The child is faced with the challenge to make sure that all animals are well. The animals placed on the physical KidPad become alive on the computer screen. Now the child can move the animals around, caress the animals, feed them, play with them et cetera. Depending on how the animals are treated they will be happy, sad, satisfied, miss their mother and the like. This free construction makes it possible for the child to experiment – for instance by letting the monkey take a swim in the river or feed it with fish!!

The play mode is inspired by Dogz & Catz from P.F Magic (software), which has been sold in more than 2 million copies:

- **Nurse the animals, play with the animals, learn about the animals.**
- **Go on safari, take photos of the animals, print and color them.**
- **Experience how the "live" animals change behavior depending on the time, day or night, or the environment they are in (water, savanna, wood or "neighbor").**

- **Exploration**
- **Imagination**
- **Fun**
- **Action/Reaction**

Movie Mode

This activity makes it possible for the child to instruct their own movies in which the animals placed on the KidPad are the actors. They can use the "trackball" to move the animals, and at the same time they can record the sound and dialogues with a microphone.

- **Make your own movie with sound and picture. You decide the plot and can see the result immediately.**
- **Show your movies to your friends and parents.**
- **Maybe you feel like sending your movie to LEGO's homepage or to watch other children's movies.**

- **Creativity**
- **Imagination**
- **Fun**
- **Variation**
- **Action/Reaction**
- **Positive Child/Parent Interaction**

Music Mode

When playing in music mode it is possible for the child to compose and play their own music. They use the physical Duplo animals to decide rhythm, vocals and effects on the pieces of music.

- **You decide which animals should be part of your band, and you experience them in an environment that fits the music you wish to play.**
- **Record and play your own music while you sing along.**
- **Print your own record cover, which you can color later.**
- **Exchange music over the Internet.**

- **Creativity**
- **Variation**
- **Fun**
- **The Child's Allround Development**

Game Mode

This activity consists of a number of different little puzzles, games and exercises. We imagine that the tasks are among the well-known traditional categories of games such as memo or platform games. All puzzles and games will of course focus on using the physical play pad as much as possible in order to train the “hand/brain” coordination, and to preserve the unique LEGO values.

- **Meet the monkey Bongo and experience his trip from the jungle to the ZOO.**
- **Help Bongo collect bananas while avoiding the dangers of the jungle.**
- **Collect more bananas than your friends and parents**
- **What happens when you add new animals?**

- **Action/Reaction**
- **Skill Development/Success (“hand-brain” coordination)**
- **Challenging**
- **Positive Child/Parent Interaction/Variation**
- **Problem-Solving**

The ZOO Keeper Mode

In this mode the child can become a trainee keeper at the ZOO. The child will learn about the various animals, where they live, what they eat, how old they can get, how many young ones they give birth to et cetera. (Learning about shape, colors, numbers etc.)

During the activities the child can chose to take a “ZOO keeper examination”. The examination can consist of a number of small tests: Who eats what, questions and answers that resemble multiple choice tasks or small simulations. After a successful graduation the child can print out a diploma.

- **Become a ZOO keeper trainee and follow the keeper around in the garden.**
- **Learn about the animals. Experience where they come from, what they like to eat, who their friends are and much more….**
- **Take the “ZOO keeper examination”, maybe with your friends or parents, and print a ZOO keeper diploma.**

- **Skill development/Success**
- **Exploration**
- **The Child’s Allround Development**